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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/867,141	05/30/2001	F. Thomson Leighton	12293:34	7487

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AKAMAI TECHNOLOGIES, INC.
ATTN: DAVID H. JUDSON
8 CAMBRIDGE CENTER
CAMBRIDGE, MA 02142

EXAMINER	
MAURO JR, THOMAS J	

ART UNIT	PAPER NUMBER
2143	

DATE MAILED: 09/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/867,141	LEIGHTON ET AL.	
	Examiner	Art Unit	
	Thomas J. Mauro Jr.	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 May 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 May 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-10 are pending and are presented for examination. A formal action on the merits of claims 1-10 follows.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4, 5, 7 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 4, 5, 7 and 8, these claims each contain an equation/formula but however, do not define the various variables, i.e. "lat", t, c, penalty factor, used within these equations for calculating a value. In order for the equations/formulas to appear within the claims and for one to understand the invention, each variable must be defined so as to provide a proper context to interpret the claims in light of the equation/formula. Please provide proper correction by defining the variables within all equations/formulas.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merriam (U.S. 6,587,878) in view of Kirschenbaum (U.S. 6,442,140).

Regarding claim 1, Merriam teaches a method of predicting a file download time, comprising:

periodically initiating a test probe from a server to a given point in a network **[Merriam -- Figures 1 and 3, Col. 5 lines 28-34, Col. 6 lines 19-22 and lines 46-55 – Probes are used to ping the network to gather performance measurement data]**;

collecting network performance data generated from the test probes **[Merriam -- Figure 6, Col. 6 lines 19-31 and lines 46-55, Col. 7 lines 22-26 and Col. 11 lines 22-51 – Data gathered from probes is stored by the time and date the performance time was measured]**;

computing network performance data **[Merriam -- Figure 6, Col. 9 lines 14-25, Col. 9 lines 64-67 – Col. 10 lines 1-3, Col. 10 lines 29-67 and Col. 12 lines 10-28 – Network performance data, such as network delay and network delay/ping ratio, is calculated]**; and

generating a value indicative of a file download time **[Merriam -- Col. 6 lines 46-67 – Col. 7 lines 1-21 - Performance time captures not only the network transmission time to**

download a page, but also the time to display or otherwise execute the downloaded page in the browser].

Merriam fails to explicitly teach computing the performance using an exponentially time-weighted average.

Kirschenbaum, however, discloses a method of measuring round trip time (RTT) which uses an exponential averaging filter in estimating a value for the RTT **[Kirschenbaum -- Col. 6 lines 52-58, Col. 13 lines 30-52 and Col. 14 lines 37-67]**.

Both Merriam and Kirschenbaum are concerned with measuring delays, i.e. latency, within a network.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the use of an exponential averaging filter, as taught by Kirschenbaum into the invention of Merriam, in order to eliminate random fluctuations, i.e. noise which may creep into the measurements and cause skewed performance representations **[Kirschenbaum -- Col. 14 lines 43-45]**.

Regarding claim 2, Merriam-Kirschenbaum teach the invention substantially as claimed, as aforementioned in claim 1 above, including wherein the test probe is a ping **[Merriam -- Col. 6 lines 19-22 and lines 46-53 – Pinging is used to probe network]**.

Regarding claim 3, Merriam-Kirschenbaum teach the invention substantially as claimed, as aforementioned in claim 1 above, including wherein the network performance data is latency

[Merriam -- Figure 6, Col. 6 lines 46-67 – Col. 10 lines 1-26 and Col. 11 lines 22-51 – Pinging measures round trip time for packets, i.e. latency].

6. Claims 6 and 8-9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Merriam (U.S. 6,587,878) and Kirschenbaum (U.S. 6,442,140), as applied to claims 1 and 8 above respectively, in view of Rakoshitz et al. (U.S. 6,578,077).

Regarding claim 6, Merriam-Kirschenbaum teach the invention substantially as claimed, as aforementioned in claim 1 above, but fail to explicitly teach wherein network performance data is packet loss.

Rakoshitz, however, discloses a traffic monitoring tool for monitoring and profiling traffic in a data network which monitors a plurality of network performance metrics, including round trip time (RTT) and packet loss **[Rakoshitz -- Col. 5 lines 25-39, Col. 17 lines 52-56, Col. 18 lines 47-49 – Retries and data retransmits, all associated with packet loss, in addition to packet loss, is monitored]**.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the monitoring or recording of packet loss, i.e. retries and data retransmits, as taught by Rakoshitz into the invention of Merriam-Kirschenbaum, in order to monitor and measure a well-known and widely watched performance metric for determining the quality and dependability of a network.

Regarding claim 8, Merriam teaches the invention substantially as claimed, a method of predicting a file download time, comprising:

periodically initiating a test probe from a server to a given point in a network **[Merriam -- Figures 1 and 3, Col. 5 lines 28-34, Col. 6 lines 19-22 and lines 46-55 – Probes are used to ping the network to gather performance measurement data]**;

collecting latency data generated from the test probes **[Merriam -- Figure 6, Col. 6 lines 19-31 and lines 46-55, Col. 7 lines 22-26 and Col. 11 lines 22-51 – Data gathered from probes is stored by the time and date the performance time was measured]**;

using the data to compute network performance data **[Merriam -- Figure 6, Col. 9 lines 14-25, Col. 9 lines 64-67 – Col. 10 lines 1-3, Col. 10 lines 29-67 and Col. 12 lines 10-28 – Network performance data, such as network delay and network delay/ping ratio, is calculated]**; and

generating a value indicative of a file download time **[Merriam -- Col. 6 lines 46-67 – Col. 7 lines 1-21 - Performance time captures not only the network transmission time to download a page, but also the time to display or otherwise execute the downloaded page in the browser]**.

Merriam fails to explicitly teach computing the performance using an exponentially time-weighted average and collecting packet loss data.

Kirschenbaum, however, discloses a method of measuring round trip time (RTT) which uses an exponential averaging filter in estimating a value for the RTT **[Kirschenbaum -- Col. 6 lines 52-58, Col. 13 lines 30-52 and Col. 14 lines 37-67]**.

Furthermore, Rakoshitz discloses a traffic monitoring tool for monitoring and profiling traffic in a data network which monitors a plurality of network performance metrics, including round trip time (RTT) and packet loss **[Rakoshitz -- Col. 5 lines 25-39, Col. 17 lines 52-56, Col. 18 lines 47-49 – Retries and data retransmits, all associated with packet loss, in addition to packet loss, is monitored]**.

Merriam, Kirschenbaum and Rakoshitz are concerned with measuring delays, i.e. latency, and other performance data within a network.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the use of an exponential averaging filter, as taught by Kirschenbaum, along with the monitoring or recording of packet loss, i.e. retries and data retransmits, as taught by Rakoshitz into the invention of Merriam, in order to eliminate random fluctuations, i.e. noise which may creep into the measurements and cause skewed performance representations **[Kirschenbaum -- Col. 14 lines 43-45]** and to monitor and measure a well-known and widely watched performance metric for determining the quality and dependability of a network.

Regarding claim 9, Merriam-Kirschenbaum-Rakoshitz teach the invention substantially as claimed, as aforementioned in claim 8 above, including wherein the factor is modified according to a loss percentage **[Rakoshitz -- Col. 5 lines 25-39, Col. 17 lines 52-56, Col. 18 lines 47-49 – Retries and data retransmits, all associated with packet loss, are recorded as a percentage]**.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Merriam (U.S. 6,587,878) in view of Kirschenbaum (U.S. 6,442,140), Rakoshitz et al. (U.S. 6,578,077) and Bournas (U.S. 6,769,030).

Regarding claim 10, Merriam teaches the invention substantially as claimed, a method of predicting a file download time, comprising:

periodically initiating a test probe from a server to a given point in a network **[Merriam -- Figures 1 and 3, Col. 5 lines 28-34, Col. 6 lines 19-22 and lines 46-55 – Probes are used to ping the network to gather performance measurement data]**;

collecting latency data generated from the test probes **[Merriam -- Figure 6, Col. 6 lines 46-67 – Col. 10 lines 1-26 and Col. 11 lines 22-51 – Data gathered from probes is collected and stored by the time and date the performance time was measured. Pinging measures round trip time for packets, i.e. latency]**;

using the data to compute performance data **[Merriam -- Figure 6, Col. 9 lines 14-25, Col. 9 lines 64-67 – Col. 10 lines 1-3, Col. 10 lines 29-67 and Col. 12 lines 10-28 – Network performance data, such as network delay and network delay/ping ratio, is calculated]**; and

generating a value indicative of the file download time **[Merriam -- Col. 6 lines 46-67 – Col. 7 lines 1-21 - Performance time captures not only the network transmission time to download a page, but also the time to display or otherwise execute the downloaded page in the browser]**.

Merriam fails to explicitly teach computing the performance data using an exponentially time weighted average, collecting packet loss data and wherein the value is a function of the time weighted average of latency modified by a penalty factor, i.e. function of average loss.

Kirschenbaum, however, discloses a method of measuring round trip time (RTT) which uses an exponential averaging filter in estimating a value for the RTT **[Kirschenbaum -- Col. 6 lines 52-58, Col. 13 lines 30-52 and Col. 14 lines 37-67]**.

Furthermore, Rakoshitz discloses a traffic monitoring tool for monitoring and profiling traffic in a data network which monitors a plurality of network performance metrics, including round trip time (RTT) and packet loss **[Rakoshitz -- Col. 5 lines 25-39, Col. 17 lines 52-56, Col. 18 lines 47-49 – Retries and data retransmits, all associated with packet loss, in addition to packet loss, is monitored]**.

In addition, Bournas discloses a function which calculates the average RTT which includes a penalty factor of a propagation delay **[Bournas -- Col. 5 lines 18-67 – Col. 6 lines 1-29]**. With the framework of equations outlined by Bournas, including a penalty factor, it would have been obvious to substitute the average packet loss for the propagation delay to provide a more realistic and accurate RTT to be used in calculating a file download time.

Merriam, Kirschenbaum, Rakoshitz and Bournas are concerned with measuring delays, i.e. latency, and other performance data within a network.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the use of an exponential averaging filter, as taught by Kirschenbaum, along with the monitoring or recording of packet loss, i.e. retries and data retransmits, as taught by Rakoshitz, and a function with calculates RTT which includes a penalty

factor with loss, as taught by Bournas into the invention of Merriam, in order to eliminate random fluctuations, i.e. noise which may creep into the measurements and cause skewed performance representations **[Kirschenbaum -- Col. 14 lines 43-45]**, to monitor and measure a well-known and widely watched performance metric for determining the quality and dependability of a network and finally to provide a more accurate and realistic calculation of file download time, i.e. RTT.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Mauro Jr. whose telephone number is 703-605-1234. The examiner can normally be reached on M-F 8:00a.m. - 4:30p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on 703-308-5221. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJM
September 17, 2004

JACK B. HARVEY
SUPERVISORY PATENT EXAMINER